

WHAT IS CLAIMED IS:

1. An apparatus comprising:

a number of amplification modules configured to provide second stage amplification, each amplification module being configured to (i) receive amplified signals as inputs, (ii) produce a number of output signals corresponding to the number of received amplified signals, and (iii) combine the number of output signals to produce a differential mode output signal;

a power detector coupled to at least one of the number of amplification modules, the power detector being configured to (i) receive the differential mode output signal and (ii) produce a level indication signal representative of an output level of the received differential mode output signal; and

a gain control device coupled to the power detector and to each of the number of amplification modules, the gain control device being configured to (i) receive the level indication signal, (ii) produce a number of gain control signals in response thereto, and (iii) provide the number of gain control signals to each of the number of amplification modules.

2. The apparatus of claim 1, further comprising a pre-amplification module having a number of amplifiers configured to provide first stage signal amplification, the pre-amplification module producing the amplified signals, wherein the gain control device controls a gain of the pre-amplification module and each of the number of amplification modules based upon the gain control signals.

3. The apparatus of claim 2, further comprising the gain control device being coupled to the pre-amplification module and configured to provide at least one the number of gain control signals thereto.

4. The apparatus of claim 1, wherein the amplified signals are representative of a predetermined frequency spectrum; and

wherein the gain control device simultaneously controls a gain across the predetermined frequency spectrum.